



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,165	01/12/2001	Seiji Umemoto	Q62649	9366

7590 11/01/2002
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

NGUYEN, THONG Q

ART UNIT PAPER NUMBER

2872

DATE MAILED: 11/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/758,165

Applicant(s)

UMEMOTO ET AL.

Examiner

Thong Q. Nguyen

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 12-38 is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11 and 39-41 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 August 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment (Paper No. 12) filed on 8/13/2002.

Drawings

2. The corrected or substitute drawings were received on 8/13/2002. These drawings are approved by the Examiner.

Specification

3. The lengthy specification which is amended by the amendment of 8/13/2002 has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claim 6/1 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 6/1 is objected to because the range governing the range of inclination of the slope is larger than the range of inclination recited in its base claim. In other words, while the range of the inclination in the base claim is from 35 degrees to 48 degrees; however, the range in the claim 6/1 is not smaller than 35 degrees.

It is noted that in response to the objection of claim 6/1 as set forth in the previous Office action (Paper No. 9, pages 4-5), applicant has amended the claim; however, the amendment to the claim is insufficient to overcome the objection because the feature concerning the range of the angles of the slopes as recited in claim 6/1 is still larger than the range of the angles of the slopes recited in its base claim 1. In other words, the range of the base claims for the angle of the slope is (35 degrees, 48 degrees) while the range of the angle of the slope in claim 6/1 is smaller than 35 degrees which range is outside the range claimed in its base claim 1.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1, 3-5, 7, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al (EP 867 747) in view of Tai et al (U.S. Patent No. 5,390,276) (both of record).

See the rejection as set forth in the previous Office action (Paper No. 9, pages 7-8).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al in view of Tai et al as applied to claim 1 above, and further in view of the Japanese reference No. 11-142618 (of record).

See the rejection as set forth in the previous Office action (Paper No. 9, page 9).

Art Unit: 2872

8. Claims 8-9, 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al in view of Tai et al as applied to claim 1 above, and further in view of Qiao et al (U.S. Patent No. 5,485,291, of record).

The optical film as provided by Bao et al and Tai et al does not disclose that the prismatic structure comprises discontinuous grooves and a reflector disposed close to the surface having prismatic configuration.

First, it is noted that such feature recited in each of claims 8 and 39 is merely that of a preferred embodiment and is not critical to the invention because the specification and the other claim of the application also disclose/recite a plurality of alternative features concerning the shape as well as the dimensions of the series of grooves and flat sections formed on the surface of the light guide. It is also noted that it is old and well known that prismatic configurations are used in light guides to reflect as well as to diffuse light through guide light and the prism/film sheets are made with different shapes in a parallel, symmetric or even a random pattern with varied vertical and inclination angles, as well as depth and width dimensions to achieve a desired light output effect. The layer orientation of the film, the prismatic configuration, etc.. will be selected in a manner of the positions of the light sources and other components used to constitute an optical device. Second, the use of a light guide having a prismatic structure formed on one surface thereof wherein the prismatic structure comprises a plurality of discontinuous grooves and disposed close to a reflector is known to one skilled in the art as can be seen in the lighting panel provided by Qiao et al. In columns 2-

4, Qiao et al discloses an arrangement of discontinuous grooves on one surface of the light guide (17). Each of the groove is formed by two slopes in which one slope is gentle inclination with the plane of the light guide, i.e. in the range of 1 degree to 15 degrees while the other slope is formed with the plane of the light guide by an inclination in the range of 35 degrees to 55 degrees. It is noted that since the depth of the groove in the range of 5 and 10 micrometers and the angle of the gentle inclination is in the range of 1 degree to 10 degrees; therefore, the length of each discontinuous groove is not smaller than five times as large as a depth of the groove. It is also noted that since the land between two adjacent grooves can be 200 microns; therefore, the area of the discontinuous grooves can be selected or controlled so that it is not larger than 10% of the area of the whole surface of the light guide. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined product provided by Bao et al and Tai et al by utilize a prismatic structure as suggested by Qiao et al for the purpose of improving the optical performance of the whole system.

With regard to the feature that the thickness of the light guide is 300 micrometers or less as claimed in present claim 41, such a feature is considered as an obvious matter to one skilled in the art when (s)he want to use a thin transparent guide light. A typical example of a light guide device having a transparent guide light with prismatic structure formed on one surface thereof wherein the thickness of the transparent guide light is 1 mm or less is disclosed in the art as can be

seen in the device provided by Qiao et al. See column 2. Applicant should note that it was decided in the Courts that "the disclosure in the prior art of any value within a claimed range is an anticipation of that range." In re Wertheim, supra 541 F. 2d 257, 191 USPQ 90 (CCPA 1976); Titanium Metals Corporation of America, supra 227 USPQ 773 (Fed. Cir. 1985); In re Petering, 301 F. 2d 676, 133 USPQ 275 (CCPA 1962). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined product as provided by Bao et al and Tai et al by using a thin transparent guide light as suggested by Qiao et al to obtain a product with thin or small thickness to reduce weight.

9. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al in view of Tai et al and Qiao et al as applied to claim 8 above with or without Goto et al (U.S. Patent No. 5,999,685).

The combined product as described by Bao et al, Tai et al and Qiao et al does not disclose that the shape of the groove is a tetragon or pentagon shape as recited in claim 40; however, a change in shape for the groove in an optical element is well known to one skilled in the art and also an obvious matter to one skilled in the art as decided in the Courts. In re Dailey, 149 USPQ 47 (CCPA 1976). Further, the use of a groove has a triangular shape or a pentagon shape is disclosed in the art of Goto et al. See column 4 and figs. 1A-1B. Thus, absent any showing of criticality, it would have been obvious to one skilled in the art to use any kind of suitable shapes including a pentagon as

suggested by Goto et al for the groove of an optical element to satisfy a particular design.

Response to Arguments

10. Applicant's arguments filed on 8/13/2002 have been fully considered but they are not persuasive.

First, applicant has argued that the device resulted from the teachings provided by the art of Bao et al and Tai et al is different from the device as claimed. In particular, applicant argued: "Both Bao and Tai...of light", See Amendment, pages 7-8, the Examiner respectfully disagrees with the applicant's opinions. Applicant should note that the features upon which applicant relies (i.e., light is transmitted inside of a liquid crystal panel portion in the LCD system to which the optical film is adopted; the transparent film is not intended to transmit light in its internal space; the dimension of the transparent film in the order of micrometers, etc...) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, applicant is respectfully invited to review the claims which were rejected by the art of record to show which part(s) of the claim(s) supporting for the applicant's arguments. The only feature concerning the dimension of the transparent film is disclosed in claim 41 which claim is newly-added to the application via the amendment of 8/13/2002.

Third, a comparison of the device as claimed in claims 1, 3-5, 7 and 10-11 with the art provided by Bao et al and Tai et al has resulted that the combined product provided by the art of record meets all of the limitations recited in the mentioned claims. For instance, in columns 14-15 and figs. 9-11 of the Bao et al reference, the transparent light guide (20) having two surfaces in which one surface comprises a pattern of prismatic elements and the other surface comprises an adhesive layer (40a) for bonding the light guide to a panel (O). It is also noted that the material for making the adhesive layer (40a) is a resin having its refractive index matching with the refractive index of the transparent guide light (20) and the panel (O). See column 14, for example. The prismatic configuration as shown in figure 10 comprises a continuously set of triangular-shaped projections wherein each projection is formed by a first plane (22) defined a slightly angle with the surface of the guide light and other plane (21) defined another angle larger than the angle formed by the mentioned first plane with the surface of the guide light. As shown in figure 9, the prismatic configuration comprises a plurality of prismatic projection which each extends in a direction parallel to the side (or entrance) surface of the guide light facing the light source system (30) (see also figure 11). As such, the system provided by Bao et al meets all of the limitations of the device claimed except it does not clearly state that the prismatic configuration formed on one surface of the transparent guide light can be a structure on the surface of the guide light. However, a prismatic configuration can be formed directly on one surface of a guide light or formed as

a separately structure coating/bonding on one surface of the guide light is clearly suggested to one skilled in the art as can be seen in the optical system provided by Tai et al. In particular, at columns 4-5 and figs. 1-5, Tai et al teach that the arrangement (36) which is a prismatic configuration can be an integral part of the guide light or a separate layer bonding to the guide light. Column 5, lines 7-35. It is also noted that the each of the prism has a triangular shape and the angle defined by each side of the triangular prism with the surface of the guide light can be 40 degrees (see column 5, lines 14-15 and lines 45-46). Thus, it would have been obvious to one skilled in the art at the time the invention was made to utilize the teaching provided by Tai et al by preparing a set of transparent guide light and a layer having prismatic configuration wherein the prismatic layer is able to select by choice of the user/manufacture to integrally form on the surface of the guide light or bonding to the surface of the guide light instead of a unitary guide light with prismatic configuration to control the manufacture cost.

Fourth, with regard to the applicant's arguments that the shape of the groove in claim 5 is a tetragon or pentagon while the shape of the groove disclosed in the art is a triangular, the Examiner respectfully invited the applicant to review the present specification and the claims in which the shape of the grove is not critical to the invention because the application also discloses a plurality of shapes include a triangular shape for the groove. Further, it has been decided in the Courts that a change in shape is an obvious matter to one skilled in the art.

Art Unit: 2872

Fifth, with regard to applicant's argument concerning the adhesive layer is a diffusion type while the adhesive of the art of record is a transparent adhesive, the Examiner respectfully disagrees with the applicant's opinion because any transparent element has inherently a level of diffusion, and the claim does not recite any specific limitations/features relating to the diffusive level of the device claimed.

Sixth, with regard to the rejections of claims 2 and 8 over the art of record, it is noted that applicant has not provided any specific arguments; thus, the rejections to claims 2 and 8 still maintained for the same reasons as set forth in the previous Office action.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

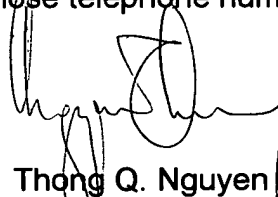
Art Unit: 2872

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
Art Unit 2872

October 28, 2002